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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/463,560	03/21/2000	NIGEL LAMBERT	TPP30852	6480

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EXAMINER	
PADGETT, MARIANNE L	
ART UNIT	PAPER NUMBER
1762	

DATE MAILED: 04/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/463,560	Lambert et al
Examiner	**Group Art Unit**
M.L. Padgett	1762

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☒ Responsive to communication(s) filed on 10/6/03.

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-7, 9-22 & 24-25 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-7, 9-22 & 24-25 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☐ All ☐ Some* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____.

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☒ Notice of Reference(s) Cited, PTO-892

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Interview Summary, PTO-413

☐ Notice of Informal Patent Application, PTO-152

☐ Other _____

Office Action Summary

1. The correction or clarification of the status of claims 23-24 is noted, i.e. in amendment A (1/27/00) claim 23, which did not yet exist was canceled, hence when amendment B (9/28/01) added a claim 23 it was informal, thus the present amendment renumbers that claim as 24. So previously rejected claim 23, will now be discussed as claim 24.

2. For the claims as now written, it is noted that the independent claims 1 and 25 require the coating composition to have a "reactive part", which is an unspecified proportion of the whole. Of the reactive part ≤ 30% by weight must be a component, i.e. resin, monomer, molecule or the like, with a minimum of 3 functional groups, where some unspecified amount of the reactive part, must a material with at least 3 acrylate groups.

Applicant may wish to review the wavelength range claimed in claim 18, as substantial content of 200-300 nm is all below the claimed peaks of 370, 408 and 438 nm in claim 19, which depends therefrom.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-5, 9-11, 17, 21-22 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al (4, 902, 378), alone or in view of Bilkadi et al (5,633,049).

Ouderkirk et al teach coating a treated substrate with a polymer coating that may be composed of polymers or copolymers including various multifunction acrylates, such as tri(meth)acrylates and tetra(meth)acrylates (col.15, lines 65-col.16, line 38). In example 1, (col. 17-18), laser treated samples that have been coated with a 5% solution of benzophenone, are then coated with a wet coating of trimethylol propane triacrylate monomer with 1% inert surfactant. Note that this coating composition contains no photoinitiators (the previous coating may be one, but that is irrelevant to the claim limitations), and the reactive part is 100% a pre-polymer that is fully an acrylic, although as seen in the list of possible compositions, copolymeric materials may be employed. This coating is cured under as N_2 atmosphere using UV radiation at 200 watts.

While Ouderkirk et al do not give any further details of their curing means, as claimed such as it being a lamp and the watts/linear cm, it would have been obvious to one of ordinary skill from those details given, that UV lamp or lamps, depending on area to be treated would have been the obvious source of taught UV to employ as the most typical and inexpensive source, and that the exemplary "at 200 watts" would have been expected to be area dependant where watts/linear length determined therefrom, via routine experimentation for varying materials, since curing effect is old and well known to be dose or intensity dependant, which power usage over the area affected will determine. While Ouderkirk et al do not discuss acetone

solvency and it can not be measured by the PTO, their testing in toluene:heptane solvents and use of materials corresponding to those claimed would tend to indicate solvent resistance as claimed.

Alternately, Bilkadi et al who teach curing multifunctional acrylics, inclusive of tri- or tetra-functional acrylates, teach UV as a preferred curing technique, especially 250-400 nmeter, at energy lines ≥ 240 w/cm preferred, with curing under inert atmosphere, such as N_2 recommended. Use of photoinitiators and/or photosensitizers is taught as optional, with discussion noting the greater need for such aids when curing in air. See the abstract; summary, esp. col.3, lines 1-11; col.9, lines 54-58; col.11, lines 29-35; col.12, lines 27-59, esp. 31-33, 41-47 and 50-55.

As Bilkadi et al are teaching curing of analogous materials, it would have been obvious to one of ordinary skill to apply parameters taught as preferred for curing to the less detailed curing procedure of Ouderkirk in order to supply such details, and achieve the taught curing.

5. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al, in view of Bilkadi et al as applied to claims 1-5, 9-11, 17, 21-22 and 23-25 above, and further in view of Jonssen et al (5, 446, 073) as discussed in section 4 of paper# 12, mailed 2/13/02.

Ouderkirk et al does not discuss any specific UV wavelength, just mentioning the UV range as a whole which is inclusive of applicants' subrange of substantial spectral content in 200-300 nm and specific peaks at 370, 408 and 438 nm, while Bilkadi et al as seen above recommends 250-400 nm for curing of analogous materials thus making the use of broader claimed spectral range obvious. Analogous to previous arguments Jonssen uses a light bulb for

polymerization without photoinitiators in the same general spectral region (Fig.5), thus the spectral peak pattern shown for such a bulb would have been expected as a typical useful spectral distribution, thus obvious for its taught purpose of polymerization and applicable to Ouderkirk in view of Bilkadi et al as previously discussed.

6. Claims 1-7, 9-22 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (4,689, 243) in view of Bilkadi et al, and/or claims 18-19 further in view of Jonssen et al as discussed above.

Sasaki et al teach UV curing under inert (N_2) atmosphere a cross-linkable resin material that may contain a variety of monomers, including greater than 30% with tri- or tetra-acrylates (abstract; col.1, lines 5-17; col.6, lines 51-col.7, line 15+; col.8, lines 28-63; col.9, lines 6-25+ ; and col.11, lines 35-44). It is noted that while use of photoinitiators when UV curing is preferred, it is NOT required, and that one purpose of the process of Sasaki et al is to make a solvent resistant surface.

Sasaki et al does not provide specific parameters and UV sources for the taught UV curing, hence it would have been obvious for one of ordinary skill to look to analogous prior art for suitable means and parameters, which for reasons as discussed above are provided by Bilkadi et al, or with further consideration of Jonssen et al for claims 18-19.

7. Applicant's arguments with respect to claims 1-7, 9-22, 24-25 have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on Monday-Friday from about 8:30a.m to 4:30p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beck Shrive, can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Padgett/tgd April 6, 2004 & 4/7/04

MARIANNE PADGETT
PRIMARY EXAMINER